I claim:

1. An implantable, rechargeable assembly comprised of an implantable device disposed within a living organism, an electrical storage device connected to said implantable device, and a thermoelectric charging assembly operatively connected to said electrical storage device, wherein said thermoelectric charging assembly is comprised of means for transferring thermal energy between said living organism and a thermoelectric module, means for generating an electrical current from said thermal energy, means for charging said electrical storage device with said electrical current, means for determining the extent to which said electrical storage device is being charged with said electrical current, and means for generating a signal whenever the extent to which said electrical storage device is being charged with said electrical current falls below a specified value.

2. The implantable assembly as recited in claim 1, wherein said electrical storage device is a battery.

3. The implantable assembly as recited in claim 2, wherein said electrical storage device is a capacitive electrical storage device.

4. The implantable assembly as recited in claim 1, wherein said implantable device is a cardiac assist device.

5. The implantable assembly as recited in claim 1, wherein said implantable device is a drug delivery device.

6. The implantable assembly as recited in claim 1, wherein said implantable device is a brain stimulation device.

7. The implantable assembly as recited in claim 1, further comprising a first sensor for sensing the temperature of said living organism.

8. The implantable assembly as recited in claim 7, further comprising a second sensor for sensing the temperature at the surface of the skin tissue of said living organism.

9. The implantable assembly as recited in claim 8, wherein said thermoelectric charging assembly produces an electrical power of at least 50 microwatts when presented with a temperature differential of 2 degrees Celsius.

10. The implantable assembly as recited in claim 9, wherein said thermoelectric charging assembly produces an electrical power of at least 100 microwatts when presented with a temperature differential of 1 degree Celsius

11. The implantable assembly as recited in claim 1, comprised of means for increasing said temperature of said living organism.

12. The implantable assembly as recited in claim 11, wherein said means for increasing said temperature of said living organism is comprised of a means for applying a stimulus to the tissue of said living organism.

13. The implantable assembly as recited in claim 1, wherein said thermoelectric module is comprised of a first surface at a first temperature and a second surface at a second temperature, and wherein at least one of said first surface and said second surface is proximate to a thermally conductive member that is at a temperature range that is not between said first temperature and said second temperature.

14. The implantable assembly of claim 13, wherein said conductive member is an elongated rod having a proximal end proximate to said at least one of said first surface and said second surface.

15. The implantable assembly of claim 14, wherein said conductive member further comprises a distal end affixed to a thermal contact.

16. The implantable assembly of claim 15, further comprising an insulating sheath around said conductive member.

17. The implantable assembly as recited in claim 1, wherein:

a. said thermoelectric module is comprised of a first surface and a second surface,

b. said first surface is proximate to a first thermally conductive member extending in a first direction parallel to said first surface;

c. said second surface is proximate to a second thermally conductive member extending in a second direction parallel to said second surface; and

d. said first direction is substantially opposite said second direction.

18. An implantable, rechargeable assembly comprised of an implantable device disposed within a living organism, a line for connecting said implantable device to an electrical storage device, a thermoelectric charging assembly, a line for operatively connecting said thermoelectric charging assembly to said electrical storage device, wherein said thermoelectric charging assembly is comprised of means for transferring thermal energy between said living organism and a thermoelectric module, means for generating an electrical current from said thermal energy, means for charging said electrical storage device with said electrical current, means for determining the extent to which said electrical storage device is being charged with said electrical current, and means for generating a signal whenever the extent to which said electrical storage device is being charged with said electrical current falls below a specified value, and a line for operatively connecting said means for determining the extent to which said electrical storage device is being charged with said electrical current to said electrical storage device.

19. The implantable assembly as recited in claim 18, wherein said implantable device, said means for determining the extent to which said electrical storage device is being charged with said electrical current, and said means for generating a signal whenever the extent to which said electrical storage device is being charged with said electrical current falls below a specified value are housed in a primary case.

20. The implantable assembly as recited in claim 19, further comprising an electrical storage device.

21. The implantable assembly as recited in claim 20, wherein said electrical storage device is external to said primary case.

22. The implantable assembly as recited in claim 21, wherein said electrical storage device is a battery.

23. The implantable assembly as recited in claim 21, wherein said electrical storage device is a capacitive electrical storage device.

24. The implantable assembly as recited in claim 21, wherein said electrical storage device is contained within a second implantable device.

25. A method for increasing the thermal gradient that is present at an implantable power device implanted in a living organism, said power device comprising an electrical storage device and a thermoelectric module having a first surface at a first temperature and a second surface at a second temperature, wherein said method comprises the steps of:

a. monitoring at least one condition that may indicate the necessity of increasing said thermal gradient;

b. performing a decision to increase said thermal gradient based upon said monitoring of said at least one condition; and

c. performing at least one action to cause a change in temperature of at least one of said first surface and said second surface.

26. The method as recited in claim 25, wherein said at least one condition is the absolute value of the difference between said first temperature and said second temperature.

27. The method as recited in claim 25, wherein said at least one condition is the total energy content of said electrical storage device.

28. The method as recited in claim 25, wherein said at least one condition is the rate of discharge of said electrical storage device.

29. The method as recited in claim 25, wherein said at least one action to cause a change in temperature of at least one of said first surface and said second surface is delivery of electrical stimulation to a tissue of said living organism.

30. The method as recited in claim 29, wherein said delivery of electrical stimulation to said tissue of said living organism is automatic.

31. The method as recited in claim 25, wherein said at least one action to cause a change in temperature of at least one of said first surface and said second surface is delivery of energy to a tissue of said living organism by mechanical heat transfer means.

32. The method as recited in claim 31, wherein said delivery of energy to a tissue of said living organism by mechanical heat transfer means is performed by means selected from the group consisting of conductive heat transfer means, convective heat transfer means, radiative heat transfer means, and combinations thereof.

33. The method as recited in claim 25, wherein said at least one action to cause a change in temperature of at least one of said first surface and said second surface is delivery of energy to a tissue of said living organism by chemical means.

34. The method as recited in claim 25, wherein said implantable power device further comprises chemical delivery means, and wherein said at least one action to cause a change in temperature of at least one of said first surface and said second surface is delivery of a chemical by said chemical delivery means to a tissue of said living organism.

35. The method as recited in claim 25, further comprising the step of providing an alarm to said living organism to perform said at least one action to cause a change in temperature of at least one of said first surface and said second surface.

36. The method as recited in claim 25, further comprising the step of performing a decision to continue said at least one action to cause a change in temperature of at least one of said first surface and said second surface.

37. The method as recited in claim 25, further comprising the step of performing a decision to discontinue said at least one action to cause a change in temperature of at least one of said first surface and said second surface.